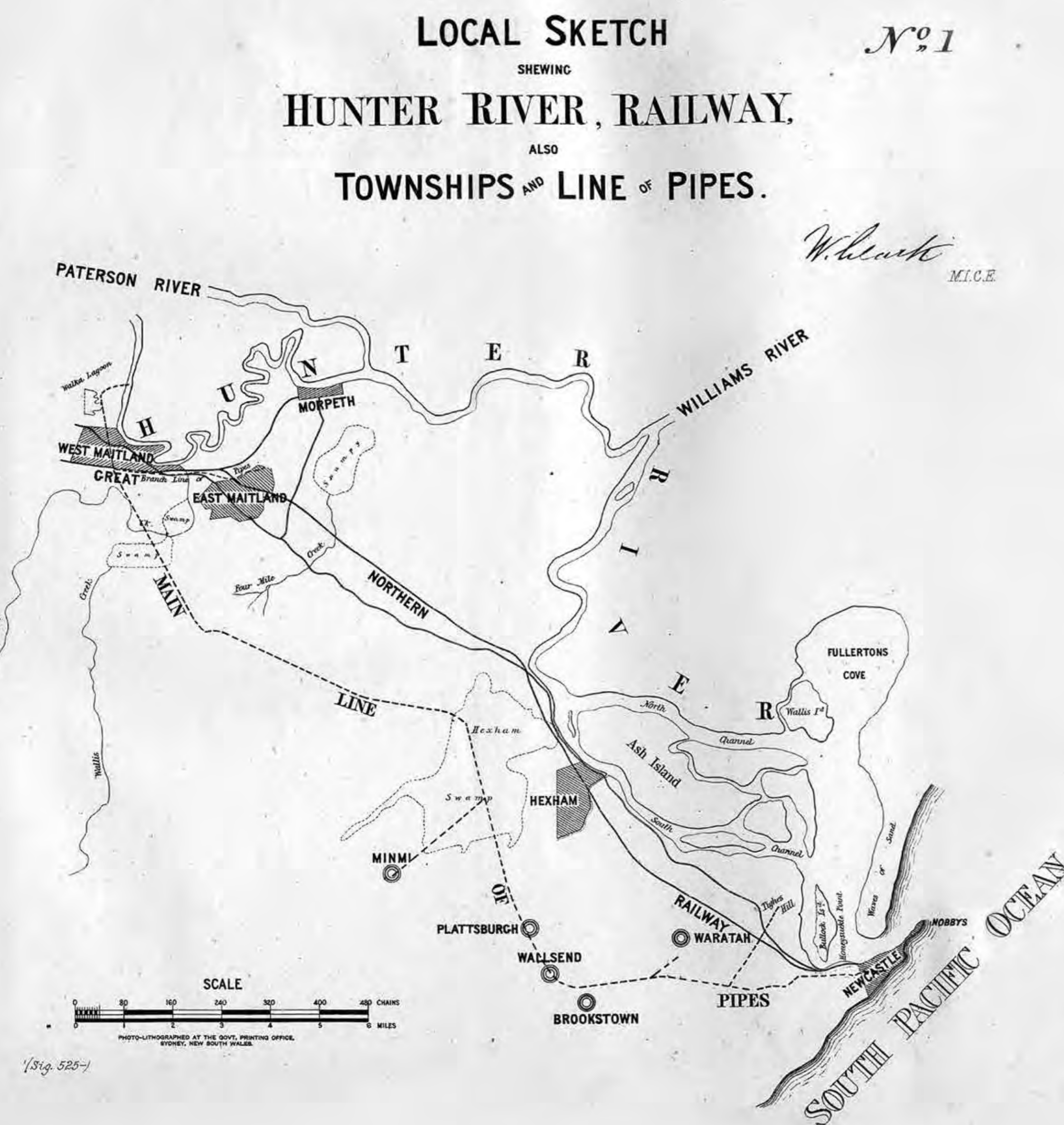


The Walka Water Supply Scheme

THE HUNTER'S FIRST WATER SUPPLY



William Clarke's original sketch of the Walka Scheme



A bustling Newcastle, 1874

Newcastle Suffers Sanitation Crisis

Newcastle was first settled by Europeans in 1797 after Lieutenant John Shortland found both fresh water and coal on the Hunter River's southern bank.

Public wells were sunk at two freshwater springs near the foreshore, and these remained the only public water sources through to the late 1800s.

By 1877, Newcastle's population had grown to more than 9,000 and the public wells were increasingly polluted and overused. Residents with large properties built rainwater tanks to collect fresh water, while others dug backyard wells or purchased water from a cart. All these sources were of dubious quality.

Newcastle was facing a sanitation crisis. Drinking water was contaminated from runoff polluted by septic pits and the local graveyard, leading to a death rate of 43 per 1,000. This is three times what was considered natural for the day.



Walka Water Works (left) and inside Newcastle Reservoir (above)

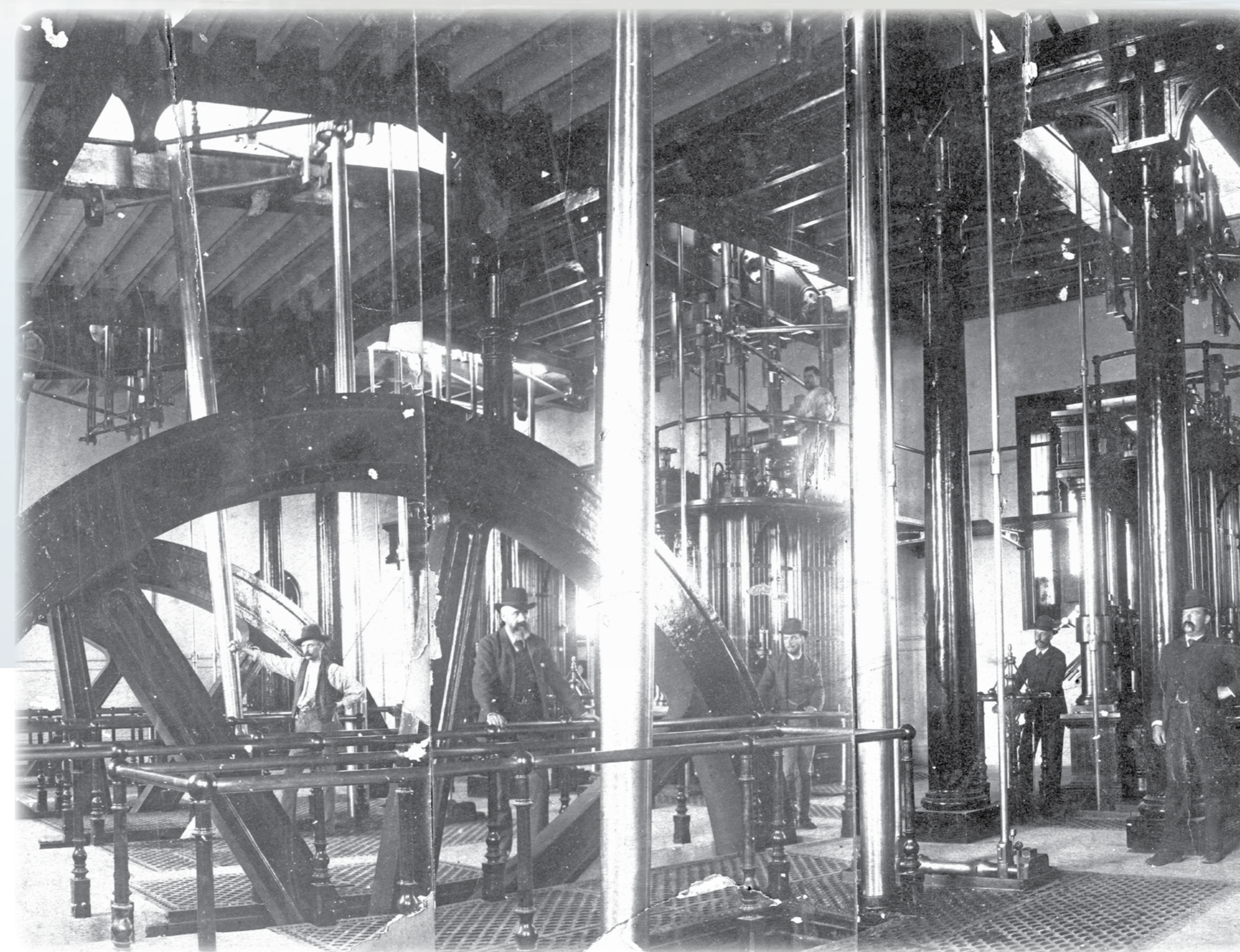
Fresh Water for this Thirsty Coal Port

In 1877 the Colonial Government established a commission to address Newcastle's water crisis and brought British hydraulic engineer William Clark from India.

Clark's mission was to develop a comprehensive water supply plan for the Newcastle area including Maitland, Morpeth and local mining townships. He proposed that the only logical option was to draw water from the Hunter River north of Maitland, then filter and pump it to a nearby reservoir on Buttai Hill. The water would then travel by gravity through to Newcastle East, filling reservoirs in townships along the way.

In 1885 most phases of the overdue Supply Scheme were completed, and the first drinking water came to fill the region's reservoirs.

Clean drinking water straight to the tap allowed the Hunter's population to virtually double in a year, and the Scheme was officially completed in 1886.



Safe from Source to Tap

Possibly the most brilliant aspect of Clark's Walka Water Supply Scheme is the sophisticated protection of water quality from source to tap. To filter and treat water at its source before transporting it totally by pipeline to covered reservoirs was a first for Australia.

This meant that from the initial concept, protection of the water from biological contamination was at the forefront of design. Filtering raw water from the Hunter River meant turbidity issues could be alleviated, and the filter media was designed to be cleanable.

Clark took special care to ensure the water supplied to Hunter residents was protected from contamination, solving the longstanding sanitation crisis that was causing illness and death in the region.

Many cities in Australia still do not have complete protection from source to tap as the Walka Water Supply Scheme did.

Walka pumping engines circa 1885

